

ABSTRACT

A reactor for processes involving reactions of gasses at high temperatures comprising a gas impermeable basket suitable for operation at elevated temperatures surrounded by a layer of insulation material, the insulation material being surrounded by a reactor shell suitable for operation at elevated pressures. The basket comprises an inlet channel and a wall surrounding a fixed catalyst bed, and the inlet channel is connected to the reactor shell forming a gas leak tight transfer for a feed gas. An electric heater can be installed on the outer surface of the wall around the inlet layer of the catalyst bed and the installed catalyst is in form of particles or a monolith. The reactor is particularly useful in catalytic partial oxidation of hydrocarbons.